Characterization Well R-12:

Location: TA-72, Sandia Canyon
near the eastern Lab boundary

Ground surface elevation: 6501 ft asl
NAD 83 Survey coordinates (center top of protective box):
x: 1647424.2 y: 1767913.4
z: 6499.6 ft asl

Drilling: air rotary with casing advance/fluid-assisted air rotary
Phase 1 Start date: 3/10/98
Phase 1 End date: 6/8/98
Phase 2 Start date: 10/25/99
Phase 2 End date: 1/10/00

Borehole drilled to 886 ft

Data collection:
Total core collected: 11.4 % of R-12; 26.4% for this location when core from SCOI-3 included.
Hydrologic properties:
Moisture content/matric potential (112/111)
Pore water anions (73) and isotopes (4)
Samples for hydraulic properties analyses:
1 from Cerros del Rio basalt
1 from Puye Fm
2 from Old Alluvium
Field Hydraulic Testing: none
Cores/cuttings submitted for geochemical and contaminant characterization: (14)
Groundwater samples submitted for geochem and cont. characterization: (4)
Geologic properties:
Mineralogy, petrography, and chemistry (23)
Borehole logs:
Lithologic (0-847 ft)
Video (0-182 ft)
Caliper (inside 10-3/4 in casing)
Natural gamma (0-640 ft; cased)

Contaminants Detected in Borehole Samples:
Perched groundwater: uranium (?), nitrate, ammonia, tritium, chloride
Regional groundwater: tritium, uranium (?), nitrogen isotopes indicate sewage influence
Cuttings/Core: $Pu^{239/240}$, Am^{241} (?)

Compilation of data collection and analyses results: LA-UR-00-3785

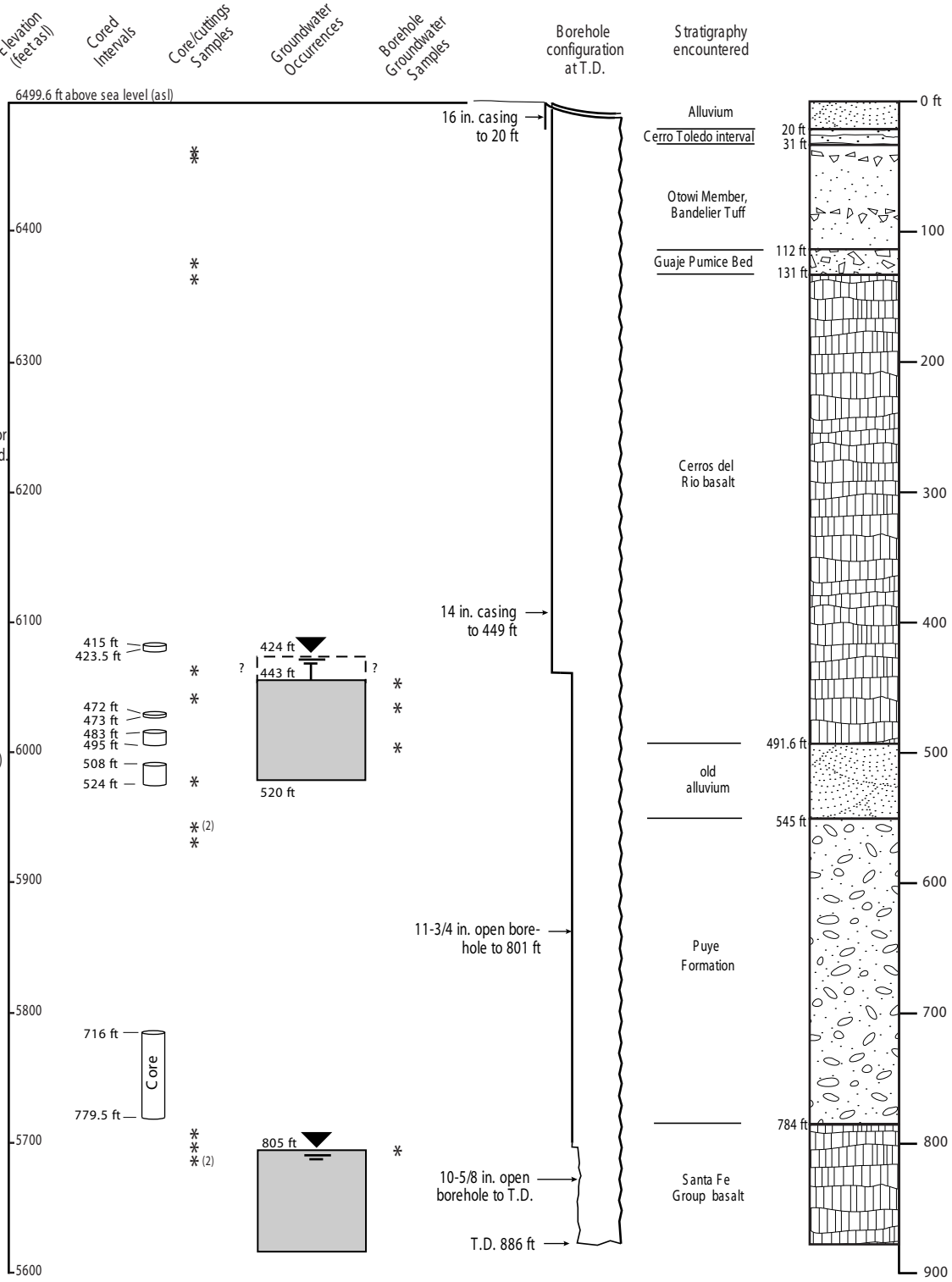
Well construction:
Drilling Completed: 1/10/00
Well Installed: 1/24/00
Well Developed: 2/6/00
Westbay Installed: 3/21/00

Casing: 4.3-in I.D. mild steel to 354 ft; 4.5-in I.D. stainless steel from 354 ft to 869 ft

Number of Screens: 3
4.5-in I.D. ss; 0.010-in slot for screens #1 and #3; 0.005-in for screen #2

Screen placements:
Screen #1 - 459 ft to 467.5 ft
Screen #2 - 504.5 ft to 508 ft
Screen #3 - 801 ft to 839 ft

Well development consisted of jetting and pumping each screen and pumping the sump.



Groundwater occurrences were determined by recognition first water produced while drilling with air. Static water levels were determined after the borehole was rested. During Phase I drilling, the upper perched zone was isolated from the lower vadose zone by landing 10-3/4 in. casing in clay-rich deposits at 520.5 ft and drilling ahead with 8-5/8 in. casing-advance drill system.

Geologic contacts determined by examination of cuttings and core, interpretation of natural gamma logs, and analysis of geologic samples by petrography and rock chemistry.

Construction, stratigraphic, and hydrologic information for Hydrogeologic Workplan characterization well R-12.